

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows.

Amend the paragraph starting on page 4, line 25 as follows:

The inventors have discovered a novel class of capillary electrophoresis probes comprised of one or more vinylogous carboxylic acid compounds. In particular, vinylogous carboxylic acid compounds of the present invention are defined as compounds containing one or more enol functional groups in conjugation with one or more carbonyl functional groups through one or more carbon-carbon or carbon-nitrogen double bonds. Preferably, the vinylogous carboxylic acid compounds of the present invention are cyclic compounds. The ~~vinylogous~~ vinylogous carboxylic acid compounds of the present invention further include tautomers, in particular keto-enol tautomers. The vinylogous carboxylic acid compounds of the present invention further include compounds where the aforementioned conjugation is obtained through one or more stabilized resonance forms of an aromatic compound. The vinylogous carboxylic acid compounds of the present invention may alternatively be cationic compounds, that is, positively charged by employing a positively charged group(s). In one example, the cationic compound includes cationic ester derivatives of the vinylogous carboxylic acid compounds. In another example, the cationic compound includes cationic amide derivatives of the vinylogous carboxylic acid compounds.

Amend the paragraph starting on page 5, line 22 as follows:

In a further aspect of the present invention, a kit containing one or more reagents for ~~preforming~~ performing capillary electrophoresis is provided wherein the one or more reagents include one or more probes comprised of one or more vinylogous carboxylic acid compounds. Alternatively, the reagents may also include one or more buffer solutions.

Amend the paragraph starting on page 12, line 15 as follows:

Of further significant advantage, the probes of the present invention exhibit high molar absorbtivities in the high UV spectrum region of the photometric detector. As described above in the Background, one of the unsatisfactory aspects of prior art probes is their strong absorbtivity in the similar region of absorbance of the analytes. In contrast, the probes of the present invention exhibit higher molar absorbtivity in a higher UV region than most analytes and this provides for increased detection and sensitivity of the CE system. In general, the vinylogous carboxylic acid compounds of the present invention exhibit molar

absorptivity at wavelengths of about 270 nm and higher. In one embodiment where the probe is squaric acid (SQ), for example, SQ is found to exhibit high molar absorptivity at a wavelength of about 270 nm. In another example where the probe is ~~2,5-dihydroxy-1,4-benzoquinone~~ 2,5-dihydroxy 1,4-benzoquinone (BZ), BZ is found to exhibit high molar absorptivity at a wavelength of about 320 nm. As shown further below in the experiments, these wavelength values are much higher than conventional probes such as pyromellitic acid (PMA) which typically exhibit high molar absorptivity at a wavelength of about 214 nm. It should be pointed out that it is not just the wavelength value that is of significance; it is the fact that the probes of the present invention exhibit high molar absorptivity at these higher wavelengths. For example, PMA does show some molar absorptivity at 270nm, however it is a fraction of its value and will not provide the level of detection and/or sensitivity achieved by the present invention. For example, as shown below in the experiments, chromate, a conventional probe also exhibits molar absorptivity at 270 nm and higher, but again its value is a fraction of that exhibited by the inventive probes at this wavelength. The higher molar absorptivity exhibited by the inventive probes at the higher detection wavelength allows operation with greater dynamic reserve with higher molar absorptivity since AN decreases with increasing wavelength. As shown in Equations 1 and 2 above, a greater dynamic reserve (DR) will result in a lower ~~minium~~ minimum detectable concentration c , i.e., and thus produces a more sensitive CE device and method. Further as described above, this higher detection wavelength of the inventive probes is above the absorbing wavelength of the analytes, and thus the inventive probes do not have the interference problems seen with prior art probes.

Amend the paragraph starting on page 14, line 20 as follows:

In an exemplary embodiment of the present invention, squaric acid (SA) is the preferred probe. Features making SA advantageous include: a) higher molar absorptivity than pyromellitic acid at 270 nm, b) electrophoretic mobility comparable to low formula weight inorganic anions, c) double the transfer ratio for fully ionized squarate compared to fully ionized pyromellitic acid, and d) higher detector ~~eavelength~~ wavelength at peak absorbance.